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REPORT ON THE STATE AGRICULTURAL EXPERIMENT STATIONS

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REPORT ON THE STATE AGRICULTURAL EXPERIMENT STATIONS, 1959

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Agricultural Research Service

Agriculture is an industry marked by constant change. Consumer demands and market outlets for farm products change with the development of new uses, competitive products, nutritional findings, foreign trade, and the domestic standard of living. Farming itself is forced to make changes under influences like changing pest and weather hazards, new efficiencies in crop and livestock production, new equipment, and new technologies.

The key to modern farm technology and to the progress in living standards it has stimulated is the Federal-State program of agricultural research and education. While there are other factors that are essential in achieving a balanced, progressive, prosperous agriculture, scientific research and education play a leading role. They make possible abundant production so that people can get the food and fiber they need at prices they can afford to pay. Having plenty of good, wholesome food and fiber available for working people has provided a sound underpinning for our country's industrial strength.

SCIENTIFIC RESEARCH AND PRODUCTIVITY

Production records over many years illustrate how farm productivity has increased on United States farms. These increases since 1890 almost parallel the growth in agricultural research and education activities. Seventy years ago one farm worker in the United States produced enough food and fiber for 6 persons. In 1958, he produced enough for 23.

Linked in close association with the U. S. Department of Agriculture's agricultural research program are the Agricultural Experiment Stations of our 50 States and of the Commonwealth of Puerto Rico. They serve as the main agricultural research and technical establishments in their respective States. While they are independent State-administered scientific institutions, they are also essential components of our nationwide State-Federal agricultural research system.

The State-Federal agricultural research system, in which the Agricultural Experiment Stations have responsibility for all State phases of research, has made great contributions to farm productivity in the United States and, therewith, to American living standards. Scientific research conceives and develops ideas and concepts for better methods of farming, processing, and marketing of farm products. It thus provides new methods that make farming easier, more efficient, and profitable. It also finds ways whereby continued supplies of wholesome food keep flowing through marketing channels at prices that are fair to consumers.

While Agricultural Experiment Station research is organized primarily to solve agriculture's most pressing problems, there have also been many byproducts in fundamental science that have paved the way for general advancement in the biological and life sciences. Some of these have helped medical research win victories over diseases like tuberculosis, brucellosis, rabies, and others. For example, the coumarin derivatives now used for preventing blood clots in humans first grew out of experiment station studies of spoiled sweetclover. Much of the great progress made in the field of antibiotics first grew out of experiment station research that had for its objective a better understanding of the nature of soil bacteria. Late in 1958, two former agricultural experiment station scientists were awarded the Nobel prize in medicine for work they did in station genetics research. Their findings are now opening a way to understanding the characteristics of some virus forms. Their research was a real pioneer accomplishment in science.

The Agricultural Experiment Stations are departments of our State land-grant agricultural colleges and universities and have primary responsibility for scientific research dealing with agricultural problems arising within their States. In most States there are also branch stations or substations and field laboratories. The main station in every State has a Director in charge. He is responsible for the full program carried on both at the main station and at the branch

stations. Also, while the work may be in one or several subject-matter departments of the college, such as animal husbandry, agronomy, horticulture, botany, soil science, and others, all of the research is coordinated by the Director of the main station.

SOURCES OF SUPPORT

The Federal-grant payments are appropriated annually by the Federal Congress to the Agricultural Research Service of the U. S. Department of Agriculture under authorization of the Hatch Experiment Station Act of 1887, as amended in 1955. The close working relationship between Federal and State agencies under this Act has served through the years as a model for Federal-grant cooperation in agricultural research.

The Federal-grant payments are only a fractional part of the moneys that support the Experiment Stations, generally less than 25 percent. They have served, in addition, to stimulate substantial support through State appropriations. The principal financial support is from State-appropriated funds. As the agricultural research divisions of the State land-grant colleges and universities, the stations also receive private support from foundations, corporations, farmer cooperatives, commodity organizations, and other private cooperators approved by the responsible governing boards.

The agricultural colleges of our land-grant institutions have three major activities, namely the resident instruction of students enrolled in agriculture, the agricultural experiment stations engaged in the research, and the agricultural and home economics extension service through which the new developments growing out of research are made known to farm people. The Experiment Station is responsible for giving the scientific research leadership.

DEPARTMENT'S RESPONSIBILITY IN FEDERAL-GRANT ADMINISTRATION

The Department's role in the Federal-grant research program is primarily one of service. Although it is charged with responsibility for seeing that the funds are spent as intended by Congress, a further responsibility is the technical assistance the Department is called upon to give. This assistance, which is provided by the State Experiment Stations Division of the Agricultural Research Service, includes reviews of Federal-grant research, participation in planning of regional research, and coordination of research effort among the States as well as between the States and the Department. Records of some 12,000 Federal-grant and State-supported projects are maintained in the Division. These review and coordinating services help both the State Experiment Stations and the Department to avoid duplication of effort, to recognize gaps that need to be filled, and to plan and carry out a more effective Federal-State program of agricultural research.

In addition to this active pattern of close working relationships between the Department and the State stations, which has existed for over 70 years, there is also close cooperation in many other ways as through cooperative employees, direct support of certain projects, recruitment of personnel, and planning action for numerous special programs that require technical leadership.

COMPREHENSIVE REVIEWS

In the past 3 years a new service has been developed to meet a need for a more detailed evaluation of specific segments of the program of a State station. All experiment station scientists are familiar with the annual review of their Federal-grant projects. Specialists from the State Experiment Stations Division, Agricultural Research Service, visit the stations and meet with the research people to talk over highlights of the year's work, outstanding findings, and plans for the next year. The Division is required by the Federal legislation and regulations to review all work and expenditures on behalf of the Secretary of Agriculture. Ultimately, members of congressional appropriating committees rely on these reviews for assurance that productive research is being done and that there is no undesirable duplication of projects. These annual reviews, however, have natural limitations. One of them is that experiment station research is carried on largely on a departmental basis. Because of travel limitations, the Federal office could not possibly send out enough visitors each year to provide trained counterparts for the scientists in each of the departments being reviewed, although station directors and department heads frequently express the need for such specialized review of departmental activities. Such review is necessary to see how the departmental research fits into the total station program and

how it contributes toward meeting the research needs of the State. The result has been development of what is now called the "comprehensive review." These "comprehensive reviews" enable the experiment stations to review an entire area of research from the standpoint of the agricultural needs of the State. The review teams include consultants recognized as scientific leaders in a given technological field.

PLANNING FOR THE YEARS AHEAD

As the public institutions given responsibility for technical leadership in agriculture, the Federal Department of Agriculture and the Agricultural Experiment Stations must be concerned with planning for the future. In order to meet the contingencies of 10, 20, and 30 years ahead, Experiment Stations are keeping their eyes on trends in population growth, industrial expansion, diminishment of natural resources like soil, water, and forests. Such planning and exploratory work is essential for a Nation that anticipates a population of 230,000,000 people by 1975.

A FEW EXAMPLES OF RESEARCH PROGRESS

Under the funds made available by the Federal Congress, by the State Legislatures, and private sources of support, the Experiment Stations each year contribute a wide variety of new findings, constantly moving agricultural technology forward. The following are a few examples of developments reported in the past year.

1. Pelleted Roughage Steps Up Gains In Ruminants. Faster and cheaper gains in feeding steers and lambs with pelleted alfalfa are reported by several experiment stations. In New Mexico pellets with 80 and 70 percent coarse alfalfa hay brought faster and cheaper gains in lambs than pellets containing 60 percent hay. In Oklahoma greater gains were made in steers fed a pelleted 1:4 concentrate-roughage ration than in steers fed a 4:1 concentrate-roughage ration. Pelleting resulted in a 14 percent increase in feed intake on the 1:4 ratio. In California finely ground pelleted alfalfa brought bigger gains in lambs than lambs fed chopped alfalfa. This more efficient conversion of roughage to meat is attributed to greater feed intake. The latter is made possible by faster passage of the partially digested cud from the rumen. This, in turn, brought a faster rate of cellulose digestion by the rumen organisms as shown by analysis of rumen content.

2. Nature of Selenium Poisoning. The Wyoming Agricultural Experiment Station is using radiotracer techniques in studying selenium metabolism. It is using small experimental animals treated with readily detected radioactive selenium compounds (Se^{75}). Recent experiments have shown that single-injected doses are rapidly concentrated in the liver tissue where the (Se^{75}) is bound to the protein. It is also affixed, at least partially, to sulfur-containing amino acids of peptides occurring in the protein molecules. Another group of decomposition products that has not yet been identified contained radioactive selenium. It has chemical properties which suggest that the compounds may interfere with the enzyme systems of liver cells, thereby producing the extreme selenium poisoning in animals grazing on numerous browse plants known to take up selenium from the soil.

3. New Process Turns Whey Into Livestock Feed. The Nation's cheese industry annually produces about 9 billion pounds of whey. This presents a major disposal problem, often considerable waste. The Pennsylvania Experiment Station has developed a nitrogenous derivative of whey solids that can be used as a supplemental feed for sheep and steers. Chemical treatment of the whey is necessary since it contains a large amount of lactose which causes intestinal disturbances when fed to ruminants. The new process involves fermentation of the lactose until it becomes lactic acid after which the acid is automatically and continuously neutralized with anhydrous ammonia. The process converts about 80 percent of the lactose to lactic acid and the subsequent neutralization increases nitrogen about tenfold. Tested on dairy animals the nitrogenous feed supported both growth in calves and milk flow in cows. Molasses was added to make the material more palatable. It is now being manufactured by a commercial company.

4. Green Lights Encourage Turkey Poults To Eat. A serious problem in commercial turkey production is frequent starvation of baby poults. Day or 2-day-old turkeys often refuse to eat, even with full feeders in front of them. The Iowa Experiment Station attributes about one-fourth of total mortality in poults to these "starve-outs." To overcome such early indifference to feed among very young turkeys, the station tested the effect of different colored lights

suspended above the feeders--red, orange, yellow, and green. The poults chose the green-lighted feeders by a 2 to 1 preference. More than 40 percent of the total feed taken was from the green-lighted feeders.

5. Breeding Cycle in Swine Can Be Controlled. Experiments conducted at the Michigan and Iowa Experiment Stations show that the period in which sows come into heat and are bred can be controlled. Thus hog farmers can narrow down the normal farrowing season and save time and labor. They can also plan breeding, farrowing, and feeding operations in order to market their pig crops during specific times of the year. Greater use of superior meat-type boars identified through testing programs will also be possible with the advent of practical methods for use of frozen boar semen with artificial insemination. In the experiments chemicals (progestational compounds) were given by mouth. The treatment prevented heat during any stage of the sow's normal estrous cycle and did so without interfering later with the animal's regular hormonal functioning. To be tested further is the effect of the treatment on embryonic survival.

6. Biochemical Aspects of Aging. The Illinois Agricultural Experiment Station studied the effect of aging on the absorption of thiamine and vitamin B_{12}. Easily-detected radioactive elements tagged the vitamins fed to small experimental animals. Experiments showed that the intestinal absorption of C^{14}-labeled thiamine was unaffected by age until the animals became old, at which time a significant decline in absorption was observed. The proportion of radio-thiamine found in esterified form in the liver decreased with maturity, and the retention of total thiamine was reduced in aged animals. The absorption of Co^{60}-labeled vitamin B_{12} increased with maturity to a plateau, at about 60 percent of the amount fed and declined to about 45 percent in the oldest age group studied.

7. Blood Test for Important Poultry Disease. The costly chronic respiratory disease of poultry is caused by a Pleuropneumonia-like organism. It is transmitted from infected hens to chicks through infected eggs. The Connecticut (Storrs) Experiment Station has developed an antigen that will detect the organism in the whole blood of hens that carry it. The new antigen makes it possible to find and remove from breeder flocks those birds that carry the organism. If adopted on a scale similar to that employed in blood testing for poultry pullorum disease, use of the new antigen offers poultrymen protection against serious loss from the disease.

8. Vaccination Method Shows Promise for Mastitis Control. Agricultural research is seeking methods other than use of antibiotics for controlling mastitis in dairy herds. This has become important in view of the increasing emphasis health and regulatory officials are putting on preventing penicillin contamination in market milk. The New Hampshire Experiment Station reports that in 160 cows the use of staphylococcus toxoid prevented spread of the infection in vaccinated animals. Use of the toxoid decreased the number of flareups in infected cows for periods up to 18 months, although quarters with well established chronic infections cannot be expected to clear up with vaccination.

9. What It Takes To Farm Where Great Plains Begin. What factors are important to keep in mind for the young man seeking a successful farming career in the Cornbelt--Great Plains transition area? These questions are coming increasingly to agricultural colleges in those States where there is a breaking point between cornland and dryland acreage. The Nebraska Experiment Station sought some of the answers in the record of average farm experiences during the past 20 years. In that period 1/5 of the differences in capital accumulated by farmers could be attributed to the time of starting in farming, i.e. the economic situation prevailing at the time an individual began his operations. Financial progress during the period was found closely related to years of education, number of animal units, and acreage in farm. A value of $887 was shown to be added to the net worth for each year of schooling, of $85 for each additional animal unit, and of $15 for each added acre of land. This type of information, based on actual records and experiences over a 20-year period, is useful to both beginners and those seeking to adjust their farming operations to the type of farming that has proved most successful in the near Great Plains area.

10. Research That Brought Lowered Moisture Discount Rates for Corn. The Ohio Agricultural Experiment Station not only demonstrated the need for lowering moisture discount rates in corn but actually helped lower them as a marketing practice. The marketing study brought out that moisture discounts in Ohio during recent years ranged from 24¢ to 49¢ a bushel for corn of 24 percent moisture. Careful study of the rates in relation to the problems involved revealed clearly that the charges were excessive when compared with the cost of providing the services for handling such corn. The findings were used to develop a recommended discount

schedule which lowered the discount for 24 percent moisture corn to 17¢, a substantial saving for farmers. Competition among marketing firms brought the schedule into trade use.

11. Small Forest Owners Need to Improve Marketing. It is in their own interest and that of longtime timber forest conservation that small woodland owners place more attention on how they market timber and forest products. This conclusion may be drawn from a report made by the California Experiment Station on a study of marketing practices and prices for Western nonindustrial logs and stumpage. Four-fifths of the sample timber sales in the study, carried on in Mendocino County, were from holdings of less than 700 acres. Two-thirds of the sellers of forest products from the small holdings had no previous timber marketing experience. An even bigger percentage received no technical forestry advice in connection with their sales. The marketing practices were found to be disorganized and inadequate. This had an unfavorable influence on productive use of the forest land in the county. Inexperienced sellers played a passive role, measurements lacked uniformity, and there were no concentration points for marketing. Influenced by this situation, an appreciable number of the small ownerships were withdrawing from commercial timber production. On other holdings the extent of silvicultural practice in connection with timber sales was extremely limited.

12. What Makes Tender Beef. The Texas Experiment Station reports research dealing with the eating quality of beef. One of the findings suggests that heredity plays an important part in consistently getting tender beef. However, palatability studies also suggested that tenderness in different cuts and different muscles of certain cuts is related to the cooking method used. Loin Steaks, involving the back muscle, were most tender when broiled rare, but were toughened by severe cooking such as braising well done. Braising well done, however, was necessary to tenderize the leg muscles of bottom round steak. Carcass grade and fatness were shown to be unreliable indicators, not only of tender meat, but also of the method of cooking to obtain tenderness.

13. New Method Betters Domestic Fleece Wool Prices. Domestic fleece wools are conventially marketed and graded on a whole fleece basis as received from the farm. Such wool commands a price well below comparable grades of foreign wool. On the basis of a study of wool mill requirements, made by the Ohio Experiment Station, a new technique of putting up fleece wool for market has been developed. This technique involves primarily sorting (skirting) the fleece into standardized lots of wool. Cost and returns from putting up wool under this marketing technique were determined under both farm and warehouse conditions. Results obtained indicated that both methods returned a net gain of 1 to 2¢ per pound, above all costs, over that for wool put up in the regular way. The warehouse method had the advantage of achieving greater uniformity in the product and consequently better market acceptance and required less supervision in handling.

14. Indicated Demand for Milk and Dairy Products in South. The Georgia Agricultural Experiment Station gave leadership to a Southern regional study seeking to outline the various projected changes that will have a bearing on projected changes in demand for milk and dairy products. Important factors affecting demand included income amount and distribution, urbanization, industrialization, age and racial composition, and geographic distribution of the population. Changes due to these factors indicate an average annual increase of 2.8 percent in the commercial demand for all milk products during the next 20 years. The projected demand varied from 3.6 percent for fluid whole milk to 1.9 percent for evaporated and dried milk. The sharpest rate of increase was 5.5 percent for Florida, and the lowest was a decrease of 0.5 percent for Arkansas. Variations were quite wide within the region with the projected increase in demand considerably above the regional average in Florida and Texas-Louisiana areas, considerably below the regional average in Arkansas-Mississippi-Tennessee areas, and near the regional average in the Carolina-Georgia area. The information thus gathered furnishes a scientific basis for planning production, marketing, and distribution of milk and dariy products for the Southern States in the period ahead.

15. Preventing Off Flavors in Frozen Vegetables. Food processing research at the New York Agricultural Experiment Station (Geneva) has related the occurrence and action of several enzymes in raw vegetables to off-flavor development when these vegetables are placed in frozen storage. When frozen corn-on-the-cob was not sufficiently blanched, it developed off flavor because lipoxidase and other enzymes had not been made completely inactive. Quality deterioration of frozen peas was traced to the enzymes, lipoxidase and lipase, acting upon fatty materials. The findings put particular emphasis on the necessity for careful control of the blanching of vegetables intended for frozen storage. Inadequate blanching is likely to lead to off flavors and other unwanted changes in quality.

16. New Shipping Methods Improve Fresh Vegetable Quality. Two examples of how marketing research can improve quality have been reported by the Maryland Experiment Station.

The first points to better methods for sending fresh cauliflower to market. The research showed that 2/3 of the original weight could be eliminated by shipping only the usable part of the cauliflower, the florets (flower part of the plant). By putting these in water 38.5 percent of the original fresh weight could be retained compared with only 34.8 percent under conventional methods. Florets so handled in 50°F. maintained color and flavor satisfactorily up to 3 days; in ice water, up to 7 days.

The second example involved tests with fresh asparagus. The butts of the asparagus were put in about 1 inch of water in containers held under commercial storage conditions. By use of this method the asparagus gained 11 percent in weight and the fiber of the butt remained unchanged over a 5-day storage period. In contrast, asparagus handled by the conventional field container method lost 3 percent in weight and the fiber content of the butts was doubled.

17. Stimulatory Substances for Starter Organisms. Dairy chemists at the North Carolina Experiment Station undertook basic studies on the nutrition of starter organisms which are used to produce fermented milk products. Extracts from certain plant and animal tissues were made and compared for their stimulating ability. The stimulatory substances were later identified as peptides. The most promising extract came from pancreas glands. It produced no foreign flavor in the fermented products. When added to milk for making cottage cheese, acid production was increased, cooking time lessened, and yield increased slightly. Quality was superior over other extracts due to a better control of the fermentation process.

18. Loaf Depressing Effect of Non-fat Dry Milk Overcome. Non-fat dry milk is a valuable ingredient of bakery bread. However, the baking industry has objected to its effect in depressing volume of bread loaves by as much as 15 percent. Chemists at the Minnesota Experiment Station have identified the fraction responsible as a component of the whey protein and have called it "whey protein component 5." While it makes up only 1 percent of the non-fat dry milk, this fraction was shown to be responsible for the lowering of bread volume. Heating the protein in solution at 165°F. or higher for 30 minutes overcomes the damaging effect on bread volume, the Minnesota chemists report.

19. Strip Farming Encourages Natural Control of Spotted Aphid. In their search to overcome pesticide residue problems, entomologists are constantly seeking ways to keep insects under control through natural enemies. Except in cases of epidemic situations such natural controls can bring satisfactory yields. The California Experiment Station has shown in 3 years of research that strip farming alfalfa will keep spotted aphids and other harmful alfalfa insects in check. Under the system, alfalfa is cut and baled from alternate sections of a field, thus helping nature to maintain favorable balances between the harmful insects and their parasites and predators. The latter do not die out or leave the area because fields are never completely bare of standing alfalfa or hay. Even in the usually critical months of June and July, the strip method helped maintain favorable ratios of the natural aphid enemies. In one case reported, a strip-farmed field contained four times as many natural enemies and only one-fourth the number of alfalfa pests as did acreage in the same general area harvested in the usual way.

20. Transformation of Chemical Pesticides in Soils. Using chemicals as weedicides and insecticides, while a tremendous aid in crop production, also presents technical problems that need careful watching. One of these is residue. A part of the problem is what chemical changes take place when the materials are applied to a specific soil under certain temperature and moisture conditions. Entomologists at the Wisconsin Experiment Station, using fruit flies in their testing procedure, found that the widely-used insecticide Lindane breaks into nontoxic substances very soon after it is mixed with the soil. Tests with aldrin, however, showed that in 2 years' time 9 to 14 percent of this insecticide was changed to dieldrin when applied to silt loam and sandy loam. The change was more pronounced in sandy than in heavier soils. Also, when the aldrin application was made at around 80°F., 4 to 8 percent of the residue recovered from the soil 2 weeks later had been changed to dieldrin. No such change took place in soils held at 45°F.

21. Sawdust Compost, A Counteragent for Pesticide Residues. While various insecticides, fungicides, and weedicides give needed protection against pests of forest tree seedlings in nurseries, they also present the problem of eventual overdosing of the soil with chemical residues. This is much more of a problem in forest nursery soils than in average

agricultural soil. One bad effect is that some elements like phosphorus are tied up. Soil scientists at the Wisconsin Experiment Station successfully counteracted this by applying a specially prepared sawdust compost. It was not raw sawdust, but had been inoculated with a wood-decaying fungus and had additional nutrients added. It released the trapped elements and made them available to plants. Thus research not only came up with a counteragent to offset the bad effects of chemical residues, but it also provided a practical and beneficial use for sawdust, often available to the nurseries nearby in surplus.

22. Plastic Liners Make Mole Drains Practical in West. Mole drains with plastic liners have been tested by the Utah Experiment Station. Five mole drains, reinforced with plastic liners, 300 feet long, 22 inches deep, and 3 inches in diameter, each removed water at the rate of 2-1/2 gallons per minute. Each mole drain also removed 117 pounds of salt per day from a 1-1/2-acre plot. The plastic was placed at less than 10 cents a foot. The use of plastic liners in mole drains grew out of research first reported by the Iowa Experiment Station. Later the New York (Cornell) station, with USDA and industry cooperation, did developmental research. An attachment to the machine with which the mole drains are made feeds the plastic liners down the slit made by the blade. The plastic makes the drains sturdy and allows drainage water to seep through the slit and holes at the bottom of the mole drain.

23. Nitrifying Soil Organism Inhibits Own Growth. The New Jersey Experiment Station is engaged in fundamental research on the nature and behavior of soil bacteria that convert fertilizer ammonium nitrogen to a form more available to plants. The organisms that do the converting have been known for 70 years. Two steps are involved in the process--first, the oxidation of ammonia to nitrite, and second, the oxidation of nitrite to nitrate. But it has been very difficult to isolate and grow separately the organisms responsible for step one and those responsible for step two. The New Jersey researchers isolated the bacterium responsible for step one and developed a special nutrient medium for its growth. After this had been accomplished, the organism could be studied individually and minutely. An important observation was that the nitrifying organisms inhibit their own growth. As the organisms produce nitrites from the ammonia, they increase acidity. At a given point the acidity becomes so great as to make the nitrite highly toxic to the bacteria. In properly limed soils nitrite is converted to nitrate, and thus nitrite accumulation does not reach serious levels.

PUBLICATIONS

The Agricultural Experiment Stations issue both technical and popular bulletins and reports. While the official and technical reports supply the authentic basic information, this is given far wider dissemination through mass media such as farm magazines, newspapers, radio, and television. Many findings are incorporated in textbooks used by students of agriculture in high schools and agricultural colleges. Also, through the close affiliation of the research agencies with cooperative extension workers in agriculture and home economics, findings that have been proved practical in field trials and under typical farm conditions rapidly become a part of standard farm practices.

Printed publications of the Experiment Stations in 1959 included 947 bulletins, circulars, and reports; 6,646 articles in scientific journals; and 1,122 miscellaneous publications. In addition, 1,504 popular and 1,411 technical reports, bulletins, and circulars were processed by the stations. In their reporting, stations have shown considerable initiative in grouping research results in such a way as to speed their acceptance by farmers who make use of the research findings to improve operating efficiency.

Data by individual States relating to personnel and publications are shown in tables 1 and 2.

INCOME AND EXPENDITURES

Appropriations under the authorization of the Act of August 11, 1955, (Public Law 352) for use by the experiment stations in 1959 totaled $31,303,708. Of this amount $708,000, authorized by section 3(c)5 of the Act, were available to the State Experiment Stations Division for administration and $250,000 were provided to cover costs of penalty mail. Five million nine-hundred thousand dollars were available for allotment to the States for cooperative regional research projects authorized by section 3(c)3 and for travel by the Committee of Nine established in

accordance with this section. The remaining amount of $24,445,708 was allotted to the States and to Puerto Rico, under the formula described in sections 3(b) and 3(c)1 and 2 of the act. The amounts allotted under sections 3(b) and 3(c)1, 2, and 3 are shown in table 3.

In addition to the Federal-grant funds enumerated above, the division received funds authorized by the Agricultural Marketing Act, section 204(b), for allotment to the State Agricultural Experiment Stations for marketing research. Allotments totaling $500,000 were made to the stations during 1959 (table 3).

Non-Federal income of the stations appears in table 4.

Obligations of Federal-grant funds are shown under object classes by individual experiment stations in tables 5 and 6; obligations and allotments of funds from the Agricultural Marketing Act appropriation are shown in table 7; and obligations of non-Federal funds are indicated in table 8. The 1959 obligations of non-Federal funds which include State appropriations, research grants, and income from other sources totaled $104,196,160.35, as compared with $96,958,478.95 in 1958. The 1959 non-Federal fund obligations by all of the stations approximated $3.37 for each $1 of Federal grants. Summaries of obligations appear in tables 9 and 10.

TABLE 1.-- Organization and personnel of the experiment stations for the year ended June 30, 1959

Station	Date of legislative assent to Hatch Act	Date of organization under Hatch Act	Personnel				
			Full-time research	Research and teaching	Research and extension	Research, teaching, and extension	Workers engaged full or part time in research
			Number	Number	Number	Number	Number
Alabama	Feb. 27, 1889	Apr. 1, 1888	81	75	.....	4	160
Alaska	May 2, 1929	May 1, 1931	18	.....	6	.....	24
Arizona	Mar. 19, 1889	July 1, 1889	80	79	.....	1	160
Arkansas	Mar. 7, 1889	Apr. 2, 1888	100	73	1	3	177
California	Mar. 12, 1889	Mar. 13, 1888	204	452	.....	.....	656
Colorado	Mar. 25, 1889	Feb. 20, 1888	34	116	.....	4	154
Connecticut:							
State	May 18, 1887	May 18, 1887	97	.....	.....	.....	97
Storrs	May 18, 1887	Apr. 1, 1888	39	32	1	17	89
Delaware	Apr. 14, 1887	Feb. 21, 1888	8	18	6	12	44
Florida	June 7, 1887	Mar. 16, 1888	228	67	3	8	306
Georgia	Dec. 24, 1888	Feb. 18, 1888	143	59	1	10	213
Hawaii	Mar. 31, 1911	July 1, 1929	37	34	.....	.....	71
Idaho	Jan. 23, 1891	Feb. 26, 1892	39	56	.....	2	97
Illinois	May 11, 1887	Mar. 21, 1888	117	127	13	16	273
Indiana	Jan. 19, 1889	July 1, 1887	125	140	22	22	309
Iowa	Mar. 1, 1888	Feb. 17, 1888	106	124	18	16	264
Kansas	Mar. 3, 1887	Feb. 8, 1888	45	199	2	1	247
Kentucky	Feb. 20, 1888	Apr. 29, 1888	95	80	9	6	190
Louisiana	July 12, 1888	Apr. 5, 1887	139	77	2	1	219
Maine	Mar. 16, 1887	Feb. 16, 1888	42	48	.....	1	91
Maryland	Mar. 6, 1888	Mar. 9, 1888	28	44	10	31	113
Massachusetts	Apr. 20, 1887	Mar. 2, 1888	81	42	8	23	154
Michigan	Apr. 12, 1889	Feb. 26, 1888	90	146	20	7	263
Minnesota	Feb. 4, 1889	Jan. 26, 1888	69	203	6	4	282
Mississippi	Jan. 31, 1888	Spring, 1888	83	78	1	3	165
Missouri	June 11, 1889	Jan. 31, 1888	14	161	5	4	184
Montana	Feb. 16, 1893	July 1, 1893	35	97	.....	8	140
Nebraska	Mar. 31, 1887	June 14, 1887	76	88	2	3	169
Nevada	Feb. 8, 1889	Dec. 1887	21	12	4	7	44
New Hampshire	Aug. 4, 1887	Feb. 22, 1888	8	48	6	7	69
New Jersey	Mar. 16, 1887	Mar. 5, 1888	67	105	.....	2	174
New Mexico	Feb. 28, 1889	Nov. 14, 1889	29	37	3	3	72
New York:							
Cornell	Mar. 30, 1887	Apr. 30, 1888	43	175	33	53	304
State	(1)	.....	78	.....	.....	.....	78
North Carolina	Mar. 7, 1887	Dec. 5, 1889	119	110	1	5	235
North Dakota	Mar. 8, 1890	Oct. 15, 1890	39	60	1	.....	100
Ohio	Mar. 16, 1887	Apr. 2, 1888	74	103	5	4	186
Oklahoma	Oct. 27, 1890	Aug. 14, 1891	62	107	8	10	187
Oregon	Feb. 25, 1889	July 2, 1888	97	147	8	2	254
Pennsylvania	June 3, 1887	June 30, 1887	2	251	.....	5	258
Puerto Rico	Aug. 16, 1933	Nov. 14, 1935	180	7	.....	2	189
Rhode Island	Mar. 31, 1887	Nov. 3, 1888	21	31	4	9	65
South Carolina	Dec. 22, 1887	Jan. 1888	74	47	4	2	127
South Dakota	Mar. 11, 1887	Nov. 17, 1887	22	86	.....	5	113
Tennessee	Mar. 29, 1887	July 24, 1887	108	62	2	6	178
Texas	Apr. 2, 1887	Jan. 25, 1888	194	104	11	16	325
Utah	Mar. 8, 1888	Nov. 6, 1889	28	66	.....	3	97
Vermont	Nov. 1888	Feb. 28, 1888	11	31	6	8	56
Virginia	Feb. 29, 1888	June 13, 1888	113	81	21	10	225
Washington	Mar. 9, 1891	May 1, 1891	101	94	5	2	202
West Virginia	Feb. 22, 1889	June 11, 1888	21	72	1	1	95
Wisconsin	(2)	July 1, 1887	75	132	15	22	244
Wyoming	Jan. 10, 1891	Mar. 27, 1891	31	59	1	6	97
Total	.....	.....	3,871	4,742	275	397	9,285

(1) First made eligible to receive part of the State allotment of Federal funds by legislative act approved May 12, 1894.
(2) Session of 1887.

TABLE 2.-- Publications issued by the agricultural experiment stations during the fiscal year ended June 30, 1959

	Printed publications																Processed publications			
	Reports, bulletins, and circulars				Articles in journals				Periodicals				Pamphlets, leaflets, etc.				Reports, bulletins, circulars, etc.			
	Pop.	Tech.	Pages	Copies	Pop.	Tech.	Pages	Copies reprinted	Pop.	Tech.	Pages	Copies	Pop.	Tech.	Pages	Copies	Pop.	Tech.	Pages	Copies
Alabama	6	6	264	52,000		144	756	27,790	4		64	32,000	9		52	35,000	8		56	27,000
Alaska	4	3	91	33,000	2	7	28	1,200	2		17	12,100					20	7	355	23,350
Arizona	7	4	644	29,800		53	(1)	(1)	4		56	45,000	2		6	12,000		14	320	20,500
Arkansas		23	627	63,050		20	48	650		6	72	37,800						48	352	16,471
California	10	3	668	304,000	292	1,210	14,683	(1)		42	1,204	478,643	10	1	286	149,500		15	926	7,650
Colorado	6	5	512	30,325	(1)	(1)	764		4		68	15,500	5		27	20,035	30		716	33,372
Connecticut:																				
State		14	552	50,540		79	234	(1)	2		16	14,250	1		8	500				
Storrs	1	6	236	21,000		71	355	(1)									40	7	228	14,200
Delaware	1	3	106	8,000	27	60	307										6	70	224	5,000
Florida	17	5	1,369	172,100	263	128	1,174	(1)	4		80	40,000					117		1,080	42,157
Georgia	17	2	633	51,820		56	219	10,000	6		24	12,000					61		698	100,350
Hawaii	16	2	790	40,600		19	55	4,650	4		32	10,000					2	4	72	9,025
Idaho	8	3	172	41,500					4		32	56,000					14		152	8,500
Illinois	1	14	762	92,500		253	1,616		3		60	63,000						27	652	16,830
Indiana		25	495	135,000		116	1,675	(1)	4		64	32,000	2		26	13,500	52		367	171,550
Iowa	3	11	402	75,800		188	1,634	52,344	12	3	352	445,500	67	9	216	485,400				
Kansas	67	29	3,043	756,895	2	78	268	5,300	93	75	796	1,096,898	14	44	294	86,950	180	65	2,158	39,726
Kentucky	1	5	332	26,300	6	55	269		4		36	12,000		9	399	33,000		13	237	38,850
Louisiana	6	8	466	55,000		78	315		4		64	14,500					7	102	1,907	54,740
Maine		13	365	37,700	47	43	(1)	(1)	4		124	32,750		4	196	3,800		6	82	3,500
Maryland	3	7	483	24,000	9	41	230						14	12	106	7,800	13		346	14,950
Massachusetts		11	(1)	26,000		16	(1)		12		48	4,200								
Michigan	13	6	883	110,500		123	715		108		1,850	138,375	7		(1)	(1)		154	2,436	77,561
Minnesota	10	5	519	12,500	27	170	(1)	(1)	3		64	51,000	22		74	20,650	2		100	2,500
Mississippi	19		360	64,500	29	19	(1)	(1)	12		96	498,000	46		76	36,500	2		127	750
Missouri	27	33	1,722	155,070		133	(1)	(1)	12		48	307,380	52		52	93,756				
Montana	9	4	316	71,000	27		378	7,400					2		32	7,500				
Nebraska	9	3	220	50,500		70	280	(1)	4		64	44,000	70		142	108,670	13		369	38,600
Nevada	6	1	220	15,700		18	127	(1)									79		151	17,100
New Hampshire	10	4	495	27,500		15	72	3,400	1		12	2,500	1	1	16	2,800	2		41	1,700
New Jersey	2	1	68	18,600		70	484		6	12	816	115,000	15		262	49,400	31		360	131,100
New Mexico	9	7	556	38,500		7	30	725					1		12	6,000	2		11	270	36,000
New York:																				
Cornell	1	27	1,296	159,800	369	528	4,147		4		64	115,000					431	256	7,346	(1)
State		6	276	27,500		32	(1)	(1)	4		64	117,000	2		8	7,500	228	52	461	102,565
North Carolina	8	9	752	75,000		117	699	27,900	4	11	748	43,000						23	748	21,300
North Dakota	6	5	530	102,000					72		232	619,200	2	4		4,000	6	4	367	34,200
Ohio	1	35	1,364	196,580		105	525		6		96	159,000	35		137	7,200		359	3,115	345,145
Oklahoma	25	5	733	105,100		40	273		6		95	21,000	3		168	8,250	30		583	22,780
Oregon	4	10	337	20,300		93	(1)		8		80	27,800	2		38	800	7	23	368	24,200
Pennsylvania	14	21	628	111,300		96	544		4		64	48,400						10	189	4,975
Puerto Rico		7	357	21,000		14	85			8	538	24,000						27	113	16,100
Rhode Island	8	5	447	23,100	1	13	55	3,550					2	3	60	9,600		2	3	(1)
South Carolina	20		648	66,000					4		32	18,000						51	642	47,000
South Dakota	14	2	372	105,500		42	386		4		100	38,500	3	1	288	27,500	11		28	4,856
Tennessee	4	9	358	66,000	34	61	548	15,050	4		64	12,800					18	29	5,904	15,860
Texas	48	4	782	277,600		290	(1)		6	4	148	71,400	26		112	170,000	52	5	1,511	148,500
Utah	9	5	450	43,500		32	191		4		128	26,000	2		8	3,500	9		(1)	(1)
Vermont	4	3	128	20,000	4	3	18		4		64	27,100	1		8	3,000	4		48	2,900
Virginia	17	8	478	81,000		83	396										9		150	17,500
Washington		20	543	44,300		135	722	29,625										26	672	28,100
West Virginia	7	1	312	38,000		31	195	1,550	1		22	6,000					3		21	7,500
Wisconsin	6	8	652	68,000		438	(1)	(1)										1	40	3,500
Wyoming	4	3	126	15,500		14	62	(1)	4		64	20,500					15		191	5,150
Total	488	459	29,940	4,358,380	1,139	5,507	35,562	191,134	263	353	8,762	5,005,096	418	88	3,109	1,414,111	1,504	1,411	37,282	1,805,163

(1) Total unknown.

TABLE 3.— Federal funds available to the experiment stations for the fiscal year ended June 30, 1959

Station	Federal-Grant Funds Hatch Act, as Amended		Agricultural Marketing Act, Sec. 204(b)			Total Federal Funds Available
	Quarterly Payments 1/	Regional Research Fund	Carryover from 1958	1959 Allotment	Total	
Alabama	$ 701,993.00	$ 120,548.00	.....	.....	.....	$ 822,541.00
Alaska	198,093.00	6,000.00	.....	$ 14,050.00	$ 14,050.00	218,143.00
Arizona	255,682.00	110,575.00	$ 356.17	5,700.00	6,056.17	372,313.17
Arkansas	590,803.00	99,214.00	.....	2,500.00	2,500.00	692,517.00
California	664,897.00	199,260.00	.....	18,500.00	18,500.00	882,657.00
Colorado	312,306.00	173,595.00	.....	.....	.....	485,901.00
Connecticut:						
State	135,837.00	10,765.00	.....	.....	.....	146,602.00
Storrs	135,837.00	72,140.00	350.00	5,000.00	5,350.00	213,327.00
Delaware	210,306.00	43,840.00	416.44	4,000.00	4,416.44	258,562.44
Florida	395,364.00	65,742.00	285.58	19,714.42	20,000.00	481,106.00
Georgia	730,367.00	162,255.00	1,020.45	14,700.00	15,720.45	908,342.45
Hawaii	237,835.00	39,400.00	.....	.....	.....	277,235.00
Idaho	278,286.00	100,100.00	.....	5,000.00	5,000.00	383,386.00
Illinois	690,170.00	163,820.00	.....	6,150.00	6,150.00	860,140.00
Indiana	602,963.00	167,861.00	3,157.00	33,500.00	36,657.00	807,481.00
Iowa	605,310.00	212,841.00	3,174.23	25,250.00	28,424.23	846,575.23
Kansas	447,413.00	91,900.00	1,609.37	27,160.00	28,769.37	568,082.37
Kentucky	725,228.00	125,665.50	.....	18,000.00	18,000.00	868,893.50
Louisiana	519,667.00	86,202.00	.....	3,500.00	3,500.00	609,369.00
Maine	286,518.00	89,330.00	294.29	23,000.00	23,294.29	399,142.29
Maryland	345,414.00	97,960.00	2,483.69	5,500.00	7,983.69	451,357.69
Massachusetts	322,760.00	105,710.00	.....	.....	.....	428,470.00
Michigan	657,836.00	110,850.00	3,055.49	95,925.58	98,981.07	867,667.07
Minnesota	586,625.00	151,175.00	.....	.....	.....	737,800.00
Mississippi	710,856.00	134,363.00	1,140.09	9,000.00	10,140.09	855,359.09
Missouri	646,350.00	94,630.00	.....	42,000.00	42,000.00	782,980.00
Montana	271,263.00	116,025.00	.....	.....	.....	387,288.00
Nebraska	399,571.00	130,200.00	836.98	13,500.00	14,336.98	544,107.98
Nevada	196,947.00	66,500.00	.....	.....	.....	263,447.00
New Hampshire	232,040.00	56,275.00	.....	.....	.....	288,315.00
New Jersey	316,631.00	112,710.00	.85	10,000.00	10,000.85	439,341.85
New Mexico	270,380.00	75,775.00	.....	.....	.....	346,155.00
New York:						
Cornell	606,972.00	165,920.00	.....	.....	.....	772,892.00
State	67,441.00	52,200.00	.....	.....	.....	119,641.00
North Carolina	959,622.00	167,658.00	.....	.....	.....	1,127,280.00
North Dakota	323,018.00	64,000.00	.....	.....	.....	387,018.00
Ohio	779,600.00	138,568.00	.....	11,500.00	11,500.00	929,668.00
Oklahoma	505,668.00	84,714.00	.....	.....	.....	590,382.00
Oregon	352,872.00	141,645.00	.....	26,000.00	26,000.00	520,517.00
Pennsylvania	857,357.00	170,720.00	.....	5,000.00	5,000.00	1,033,077.00
Puerto Rico	660,885.00	115,247.00	.....	.....	.....	776,132.00
Rhode Island	205,537.00	82,250.00	.....	.....	.....	287,787.00
South Carolina	574,079.00	94,957.00	.....	.....	.....	669,036.00
South Dakota	320,606.00	85,350.00	.....	6,500.00	6,500.00	412,456.00
Tennessee	732,709.00	130,149.00	.....	2,500.00	2,500.00	865,358.00
Texas	975,292.00	169,148.00	.....	13,000.00	13,000.00	1,157,440.00
Utah	243,946.00	126,765.00	.....	.....	.....	370,711.00
Vermont	242,360.00	38,390.00	.....	.....	.....	280,750.00
Virginia	648,598.00	106,717.50	.....	.....	.....	755,315.50
Washington	392,890.00	193,800.00	3,052.50	17,600.00	20,652.50	607,342.50
West Virginia	495,888.00	102,880.00	1,620.64	1,250.00	2,870.64	601,638.64
Wisconsin	598,286.00	165,950.00	.....	.....	.....	764,236.00
Wyoming	220,534.00	103,745.00	142.94	15,000.00	15,142.94	339,421.94
Total	24,445,708.00	5,894,000.00	22,996.71	500,000.00	522,996.71	30,862,704.71

1/ Includes unexpended balances from the previous year as follows:
Connecticut, $867.35; Florida, $73.66; Maryland, $10,866.30; Cornell (New York), $14.91;
New York (State), $61.17; Puerto Rico, $6,720.01; Wyoming, $17.45.

TABLE 4.— Non-Federal funds available to the experiment stations for the fiscal year ended June 30, 1959

Station	State appropriations	Special endowments, fellowships, and grants	Fees	Sales	Miscellaneous	Balance from previous year	Total
Alabama	$ 945,219.04	$ 89,254.02		$ 905,394.06		$ 585,613.30	$ 2,525,480.42
Alaska	167,500.00	18,030.00		73,402.00		48,490.00	307,422.00
Arizona	1,270,107.88	106,961.56		128,312.79		30,918.17	1,536,300.40
Arkansas	1,488,659.98	79,966.30		511,318.44		92,474.28	2,172,419.00
California	10,677,316.40	758,693.19		323,454.66		918,829.02	12,678,293.27
Colorado	686,752.44	89,556.28		293,367.65	$ 4,246.72	177,042.98	1,250,966.07
Connecticut:							
State	702,951.77	21,464.00					724,415.77
Storrs	491,384.97	113,040.45	$ 98,003.58	63,800.87		93,430.00	859,659.87
Delaware	216,710.00	150,327.77		145,937.24		70,813.56	583,788.57
Florida	4,131,331.92	102,130.52		459,487.28		191,843.02	4,884,792.74
Georgia	1,758,782.67	197,506.63		942,759.33	89,484.47	659,922.92	3,648,456.02
Hawaii	671,854.83	24,982.80		113,304.90	47,253.81	29,346.28	886,742.62
Idaho	529,194.65	75,442.41	3,204.64	250,508.96		265,707.59	1,124,058.25
Illinois	2,155,145.91	234,875.49		525,043.69			2,915,065.09
Indiana	1,760,530.00	267,622.05	285,334.73	848,833.11		409,718.68	3,572,038.57
Iowa	1,841,764.14	383,403.30		726,579.38		541,038.39	3,492,785.21
Kansas	1,523,727.81	171,812.16		661,200.56		181,602.61	2,538,343.14
Kentucky	804,000.00	277,251.37	196,230.48	146,196.60			1,423,678.45
Louisiana	2,536,695.11	91,827.74		300,662.18		112,107.46	3,041,292.49
Maine	352,687.77	54,829.45		41,552.00		38,358.84	487,428.06
Maryland	835,289.36	45,046.74		178,304.29	28,496.71	80,723.11	1,167,860.21
Massachusetts	624,511.15	37,918.34					662,429.49
Michigan	2,563,015.41	381,539.84				96,530.91	3,041,086.16
Minnesota	2,258,754.32	444,414.40	9,753.50	692,112.92			3,405,035.14
Mississippi	1,072,531.33	73,767.81		773,037.12		259,604.85	2,178,941.11
Missouri	993,525.25	145,406.80	237,287.39	444,578.39		356,906.34	2,177,704.17
Montana	1,003,653.00	57,678.25		479,094.37		530,351.34	2,070,776.96
Nebraska	1,042,160.54	135,381.50		901,922.56		326,095.09	2,405,559.69
Nevada	170,839.46	10,000.00		41,111.76	9,800.00	339.49	232,090.71
New Hampshire	149,692.53	77,453.54		20,910.67		15,773.80	263,830.54
New Jersey	1,673,300.99	290,533.28				12,077.57	1,975,911.84
New Mexico	466,309.00	7,749.96	759.88	45,185.16	32,000.00	17,640.21	569,644.21
New York:							
Cornell	3,128,785.29	424,052.40		759,487.58			4,312,325.27
State	1,321,792.08	54,718.95		111,585.32			1,488,096.35
North Carolina	1,850,673.78	84,401.55		174,411.41	245,252.85		2,354,739.59
North Dakota	804,636.39	76,273.24	6,805.52	238,168.68	875.00	449,618.89	1,576,377.72
Ohio	1,558,802.75	234,055.93		342,926.14		988,509.94	3,124,294.76
Oklahoma	1,274,415.00	50,644.10		559,197.14		326,360.36	2,210,616.60
Oregon	1,897,509.15	343,215.81	146,087.25	257,598.48			2,644,410.69
Pennsylvania	1,241,893.52	271,946.45		144,640.34	313,500.17	193,903.74	2,165,884.22
Puerto Rico	1,555,359.00				131,472.00	254,653.35	1,941,484.35
Rhode Island	171,456.04	39,968.74		39,081.82		95,431.57	345,938.17
South Carolina	607,462.88	114,841.06		349,256.12		85,274.11	1,156,834.17
South Dakota	811,880.61			293,121.09	12,652.66	136,503.25	1,254,157.61
Tennessee	665,000.00	63,513.01		338,058.22		188,082.59	1,254,653.82
Texas	1,798,067.00	685,631.42	82,149.04	1,771,249.61	195,249.22	1,087,546.93	5,619,893.22
Utah	500,000.00	197,717.67	17,381.15	162,832.25		150,866.38	1,028,797.45
Vermont	190,000.00	16,328.28		1,685.89		36,564.49	244,578.66
Virginia	1,670,001.06			234,777.10			1,904,778.16
Washington	2,524,432.20	252,899.20		469,014.95			3,246,346.35
West Virginia	359,776.00	17,200.00		175,253.00	100.00	205,859.00	758,188.00
Wisconsin	2,042,953.00	1,061,327.00		567,695.00	265,000.00		3,936,975.00
Wyoming	443,441.65	61,531.00		164,993.16		91,846.08	761,811.89
Total	73,984,237.03	9,066,133.76	1,082,997.16	18,192,406.24	1,375,383.61	10,434,320.49	114,135,478.29

TABLE 5.-- Obligatione and appropriations under the Hatch Act, as amended, for the fiscal ysar snded June 30, 1959

Station	Obligations													Unobligated	Funds available
	Personal services	Travsl	Transportation of things	Communication service	Rents and utility servicss	Printing and reproduction	Other contractual ssrvices	Supplies and materials	Equipment	Lands and structures (contractual)	Contributions to retirement	Taxes and assessments	Total obligations		
Alabama	$532,010.76	$25,417.72	$474.29	$3,584.92	$4,833.19	$3,207.26	$14,657.55	$74,085.17	$32,319.89	$11,402.25			$701,993.00		$701,993.00
Alaska	178,943.01	5,791.61	82.96			778.70	2,012.43	6,917.68	2,955.61	611.00			198,093.00		198,093.00
Arizona	184,456.94	12,402.66	245.09	1,611.41	810.89		4,009.73	33,204.35	8,790.08	1,898.67	$5,319.84	$2,932.34	255,682.00		255,682.00
Arkansas	470,962.38	18,851.28	10.31		6,002.39	9,763.11	8,145.11	36,784.90	24,400.60	6,735.07	9,147.85		590,803.00		590,803.00
California	664,897.00												664,897.00		664,897.00
Colorado	229,441.71	10,734.74	1,297.77	1,321.19	6,414.73	1,131.12	11,278.36	30,584.04	19,006.34	1,096.00			312,306.00		312,306.00
Connecticut:															
Stats	102,871.29	745.35	10.35			638.28	1,616.09	4,478.82	7,676.96	17,545.00			135,582.14	$254.86	135,837.00
Storrs	108,322.38	2,347.02	12.28		12.00	201.70	204.77	9,749.91	14,986.94				135,837.00		135,837.00
Delaware	150,189.41	6,083.46	81.26	5,607.58	254.28	2,654.30	2,158.51	36,130.22	7,146.98				210,306.00		210,306.00
Florida	333,339.00	4,041.08	18.25	51.57	327.41	49.35	559.54	8,345.50	25,704.48	22,927.82			395,364.00		395,364.00
Georgia	577,179.81	11,499.20	890.01	3,080.14	6,999.74	1,645.70	8,077.46	55,525.41	65,469.53				730,367.00		730,367.00
Hawaii	168,922.22	5,460.56	142.72	64.95		3,962.82	1,205.40	5,734.54	50,741.79	1,600.00			237,835.00		237,835.00
Idaho	224,075.45	12,599.85	2,393.87	978.36	1,958.50	1,933.85	1,754.44	31,086.78	1,504.90				278,286.00		278,286.00
Illinois	487,623.54	18,791.40	1,566.00	1,126.78	1,281.68	27,043.68	19,634.67	70,835.31	49,423.33		12,843.61		690,170.00		690,170.00
Indiana	491,698.97	9,754.92	278.27	430.64	1,786.16	206.55	6,139.91	64,680.75	24,796.57				599,772.74	3,190.26	602,963.00
Iowa	564,458.51		6.95				1,129.45	2,280.00	10,527.93	26,907.16			605,310.00		605,310.00
Kansas	421,064.01	3,298.87	9.35	324.60	101.79	1,479.83	2,684.18	7,405.92	4,895.71			6,147.06	447,411.32	1.68	447,413.00
Kentucky	599,788.58	13,125.83	365.60	287.23	23.10	1,809.99	19,426.15	59,079.40	21,090.14			10,231.98	725,228.00		725,228.00
Louisiana	390,036.28	14,601.93	218.31	1,771.06	1,784.76	3,992.11	2,843.62	57,384.45	41,323.29	5,711.19			519,667.00		519,667.00
Maine	242,483.51	11,522.23	296.83	192.41	1,200.41	281.25	1,858.45	12,196.93	16,485.98				286,518.00		286,518.00
Maryland	233,541.18	5,927.28	394.84	242.90	855.41	4,378.09	11,439.18	52,568.51	35,237.80	828.81			345,414.00		345,414.00
Massachusetts	229,055.61	8,422.33	589.62	67.29	1,668.32	3,144.32	2,090.89	45,433.30	32,288.32				322,760.00		322,760.00
Michigan	650,336.00					7,500.00							657,836.00		657,836.00
Minnesota	471,495.82	15,356.90	904.04	458.50	708.65	6,931.68	14,189.77	39,441.86	29,760.88	1,037.91	6,338.99		586,625.00		586,625.00
Mississippi	580,657.61	8,205.87	643.52	2,146.42	12,269.59	1,052.96	30,715.75	53,915.31	19,246.92	2,002.05			710,856.00		710,856.00
Missouri	553,109.53	13,572.02	155.03	231.36	1,035.56	725.46	5,688.58	35,814.49	35,435.58		582.39		646,350.00		646,350.00
Montana	257,016.95	1,332.03	25.21	1.65	805.95	30.22	1,442.82	3,509.09	7,072.64	26.44			271,263.00		271,263.00
Nebraska	384,953.94	207.31	1.39	326.03		1,308.16	1,105.68	9,266.67	2,401.82				399,571.00		399,571.00
Nevada	121,302.76	7,020.89	1,175.57	1,301.66	1,943.26	3,904.29	8,083.86	33,334.19	18,880.52				196,947.00		196,947.00
New Hampshire	207,677.96	144.67	703.82	498.20	.82	1,415.24	14,595.38	6,198.04	805.87				232,040.00		232,040.00
New Jersey	257,889.27	4,389.64	211.89	395.46	672.55	777.40	7,716.78	26,023.68	18,554.33				316,631.00		316,631.00
New Mexico	227,251.77	5,746.44	513.85	530.51	7,303.34	536.50	5,947.59	12,962.38	9,303.54	284.08			270,380.00		270,380.00
New York:															
Cornell	382,282.20	29,819.32	480.22	2,142.22	3,434.00	3,919.93	36,020.58	83,928.06	59,943.99	5,000.00			606,970.52	1.48	606,972.00
State	55,180.88	108.65	14.08	452.92	123.40	23.00	1,044.59	4,069.04	6,421.50				67,438.06	2.94	67,441.00
North Carolina	784,948.13	11,064.82	162.55	1,290.28	3,159.60	3,528.00	17,441.56	70,616.71	59,410.35	8,000.00			959,622.00		959,622.00
North Dakota	278,467.83	3,606.52	130.75	869.54	74.58	1,965.89	1,945.16	12,789.52	9,217.90		10,176.25	3,774.06	323,018.00		323,018.00
Ohio	710,081.93	14,478.33	224.78	107.61	1,172.29	1,968.39	5,323.77	28,222.82	15,393.98	2,626.10			779,600.00		779,600.00
Oklahoma	420,768.60	6,815.17	204.13	42.25	3,319.13	24.50	16,062.01	47,094.83	8,347.11	2,990.27			505,668.00		505,668.00
Oregon	351,864.41	781.14						226.45					352,872.00		352,872.00
Pennsylvania	653,440.14	12,005.93	424.83	478.85	1,108.06	7,877.42	26,751.93	65,547.49	36,296.84	53,425.51			857,357.00		857,357.00
Puerto Rico	420,022.17	14,957.82	291.65		6,179.00	6,683.20	3,406.00	117,009.28	63,843.44	6,150.00	13,156.03	9,185.61	660,884.20	.80	660,885.00
Rhode Island	140,577.06	2,092.19	89.82	722.52	1,568.28	3,834.46	3,557.93	31,631.74	21,463.00				205,537.00		205,537.00
South Carolina	462,740.00	14,060.04	700.68	1,319.08	8,359.02	5,433.86	5,433.61	44,031.25	31,688.96	312.50			574,079.00		574,079.00
South Dakota	260,434.50	3,460.85	200.43	180.38	1,013.42	5,776.37	1,983.91	34,398.09	12,615.05	543.00			320,606.00		320,606.00
Tennessee	623,632.64	15,088.99	382.96	464.55	528.23	2,730.20	9,131.07	34,879.39	16,086.68	29,784.29			732,709.00		732,709.00
Texas	688,797.27	32,639.90	388.72	3,629.65	5,604.89	14,972.45	80,877.02	58,856.46	66,458.01	1,452.87		21,614.76	975,292.00		975,292.00
Utah	232,211.92	4,105.84	16.68				797.25	2,158.30	4,656.01				243,946.00		243,946.00
Vermont	203,906.04	6,753.28	117.83	291.50	3,730.09	57.84	6,085.29	9,045.22	11,798.09	169.58		405.24	242,360.00		242,360.00
Virginia	648,598.00												648,598.00		648,598.00
Washington	325,340.22	7,055.24	450.51	393.67	539.82	491.50	8,967.21	20,395.25	27,039.92				390,673.34	2,216.66	392,890.00
West Virginia	419,646.57	7,724.03	160.08	654.39	5,759.45	4,524.12	3,495.62	33,802.73	12,348.40			7,772.61	495,888.00		495,888.00
Wisconsin	390,986.79	14,363.21	593.09	226.54	8,367.16	4,423.21	8,783.47	135,973.14	33,946.52	239.33	70.05	313.49	598,286.00		598,286.00
Wyoming	203,297.76	219.09	30.36	626.68	2,034.87	37.05	1,631.11	4,828.29	7,827.37				220,532.58	1.42	220,534.00
Total	19,954,278.22	458,595.45	18,783.40	40,525.45	117,129.77	160,755.31	451,151.19	1,764,461.66	1,143,038.39	211,306.90	57,635.01	62,377.15	24,440,037.90	5,670.10	24,445,708.00

TABLE 6.— Obligations and funds available under the Regional Research Fund for the fiscal year ended June 30, 1959

Station	Obligations													Unobligated	Funds available
	Personal services	Travel	Transportation of things	Communication service	Rents and utility services	Printing and reproduction	Other contractual services	Supplies and materials	Equipment	Lands and structures (contractual)	Contributions to retirement	Taxes and assessments	Total obligations		
Alabama	$106,333.11	$2,148.43	$19.01	$241.37	$135.05	$37.00	$646.68	$2,922.62	$5,308.06				$117,791.33	$2,756.67	$120,548.00
Alaska	5,652.54	347.46											6,000.00		6,000.00
Arizona	55,985.24	8,495.92	151.93	282.79	735.33		966.35	26,254.67	14,449.44	$1,386.94	$1,207.58	$658.81	110,575.00		110,575.00
Arkansas	67,102.86	3,561.61	67.50		12,345.13	13.00	589.84	6,112.38	7,597.88	1,388.80	435.00		99,214.00		99,214.00
California	183,908.15	11,094.36		1.00			3,099.11	1,157.38					199,260.00		199,260.00
Colorado	113,303.72	8,635.57	588.27	2,436.50	2,901.78	1,094.94	7,248.33	19,514.53	17,434.10	437.26			173,595.00		173,595.00
Connecticut:															
State	7,777.09	438.06				907.63	279.47	95.35	1,267.40				10,765.00		10,765.00
Storrs	41,943.12	3,754.88	8.84			184.40	2,628.41	8,534.73	15,085.62				72,140.00		72,140.00
Delaware	25,986.29	2,374.09	7.27	1.55		256.85	338.50	8,418.75	2,729.41	3,727.29			43,840.00		43,840.00
Florida	42,832.75	3,459.56	50.09	876.11	92.00	246.92	1,177.06	7,559.59	8,854.81	581.43			65,730.32	11.68	65,742.00
Georgia	122,566.85	1,726.78	284.23	95.78	1,155.35	1,118.36	653.35	24,923.57	9,730.73				162,255.00		162,255.00
Hawaii	20,506.96	5,199.37	156.43	264.70		974.51	994.35	4,484.06	6,819.62				39,400.00		39,400.00
Idaho	75,126.91	9,778.63	369.51	90.67	271.16		2,050.36	10,770.72	1,296.97				99,754.93	345.07	100,100.00
Illinois	102,628.07	9,098.11	392.03	384.84	9.38	6,496.33	3,410.89	18,541.29	11,448.61	8,941.44	2,469.01		163,820.00		163,820.00
Indiana	110,009.82	9,546.25	136.64	81.81	2,227.39		6,271.33	31,223.66	6,738.49				166,235.39	1,625.61	167,861.00
Iowa	124,817.69	14,521.40	434.39	941.23		331.00	3,556.49	53,501.92	14,736.88				212,841.00		212,841.00
Kansas	65,831.15	8,316.77	402.33	337.67	484.73	1,071.81	3,395.36	9,749.98	1,465.30		779.73		91,834.83	65.17	91,900.00
Kentucky	106,259.30	2,042.19	6.06	272.01	3.64	180.49	2,646.14	11,647.07	1,086.24			1,522.36	125,665.50		125,665.50
Louisiana	43,659.80	6,447.60	32.31	953.38	542.67	21.54	381.90	25,855.96	8,306.84				86,202.00		86,202.00
Maine	64,628.53	10,288.59	80.43	27.95	655.00	462.57	772.73	4,832.00	7,582.20				89,330.00		89,330.00
Maryland	67,634.69	1,938.76	26.82	111.40	833.95	662.33	1,502.50	13,888.61	11,360.94				97,960.00		97,960.00
Massachusetts	89,472.74	1,954.99	129.44	55.34	26.25	9.13	2,822.07	5,670.01	5,570.03				105,710.00		105,710.00
Michigan	77,542.09	6,215.93	121.91	95.30	300.00	65.17	5,238.23	13,981.08	6,492.15				110,051.86	798.14	110,850.00
Minnesota	103,704.29	13,119.56	247.36	318.94	77.23	7,462.23	1,188.01	14,772.64	8,682.62	500.00	1,002.86		151,075.74	99.26	151,175.00
Mississippi	110,469.06	4,052.78	301.75	622.92	1,840.77	1,374.20	8,157.40	5,589.33	1,833.27	121.52			134,363.00		134,363.00
Missouri	86,026.53	3,250.73	35.91	97.64	13.20	1,414.25	584.37	2,276.51	930.86				94,630.00		94,630.00
Montana	99,994.76	4,240.17	82.37	482.23	522.10	34.65	1,838.76	3,758.74	4,386.70	644.26			115,984.74	40.26	116,025.00
Nebraska	105,209.70	5,295.36	62.45	33.30		484.00	4,820.65	12,002.43	2,292.11				130,200.00		130,200.00
Nevada	49,353.77	9,031.48	41.91	146.11	255.99	759.55	1,103.38	3,536.89	2,270.92				66,500.00		66,500.00
New Hampshire	36,206.19	4,401.36	134.56	2.00	446.17	5.46	1,002.16	12,170.18	1,906.92				56,275.00		56,275.00
New Jersey	73,181.98	6,638.68	113.43	50.34		409.15	3,096.14	12,537.43	14,457.74	717.00			111,201.89	1,508.11	112,710.00
New Mexico	59,467.89	6,305.67	135.86	63.33	230.44		2,511.94	2,971.05	3,255.45	833.37			75,775.00		75,775.00
New York:															
Cornell	98,608.52	12,226.63	30.01	395.22	59.25	8,876.72	14,452.23	16,905.48	13,965.64	77.81			165,597.51	322.49	165,920.00
State	40,526.36	2,235.98	111.56	183.20		2,366.06	2,668.04	4,069.21					52,160.41	39.59	52,200.00
North Carolina	144,674.12	1,508.47		100.94	500.00	248.60	3,145.06	10,760.64	4,720.17	2,000.00			167,658.00		167,658.00
North Dakota	43,459.34	4,957.96	306.29	173.47	10.46	1,536.01	1,478.43	9,618.04	2,048.85		360.25	50.90	64,000.00		64,000.00
Ohio	121,527.06	4,557.30	204.75	2.05	315.00	1,279.45	1,339.76	3,770.97	5,571.66				138,568.00		138,568.00
Oklahoma	74,727.54	1,755.81	20.31	21.12	715.50		1,281.74	3,858.35	2,011.26	322.37			84,714.00		84,714.00
Oregon	126,693.32	6,369.24	98.26	66.18	20.76		3,017.55	2,861.54	2,518.15				141,645.00		141,645.00
Pennsylvania	96,654.26	10,943.32	128.03	58.05	2,733.99	890.22	10,159.08	22,048.94	26,699.11				170,315.00	405.00	170,720.00
Puerto Rico	76,956.95	3,062.59	10.29		100.00		14,446.22	14,437.52	2,060.13		2,430.02	1,733.29	115,237.01	9.99	115,247.00
Rhode Island	71,933.70	2,491.32				1,869.00		4,273.02	1,033.56	259.46			81,860.06	389.94	82,250.00
South Carolina	72,388.29	1,844.03	63.87	353.60	1,388.43	24.83	1,426.76	8,015.14	9,452.05				94,957.00		94,957.00
South Dakota	55,729.03	3,679.19	110.75	85.81		144.85	101.95	15,756.64	8,671.12	1,070.66			85,350.00		85,350.00
Tennessee	117,682.50	1,106.24		128.79	275.06	66.44	1,608.14	4,038.60	5,243.23				130,149.00		130,149.00
Texas	116,284.62	6,587.74	294.41	1,190.55	1,126.11	78.13	12,047.26	17,439.78	13,794.52	300.00		4.88	169,148.00		169,148.00
Utah	77,145.16	9,108.26	172.90		458.83	17.07	6,515.33	24,191.97	6,232.23	2,923.25			126,765.00		126,765.00
Vermont	20,032.57	3,454.84	95.04	59.11	132.35	41.01	920.81	5,445.60	7,515.19			76.87	37,773.39	616.61	38,390.00
Virginia	106,264.27	11.25		2.81				373.22	65.95				106,717.50		106,717.50
Washington	154,027.82	11,162.65	286.39	126.18	811.93	298.06	2,890.81	10,120.84	12,954.61				192,679.29	1,120.71	193,800.00
West Virginia	61,263.01	12,584.77	143.13	52.53	4,639.58	1,373.80	1,067.77	14,639.93	6,813.14				102,577.66	302.34	102,880.00
Wisconsin	103,905.82	10,830.36	146.32	584.24	1,374.38	4,278.20	1,851.58	26,717.10	13,762.01	1,324.56	281.45	224.50	165,280.52	669.48	165,950.00
Wyoming	44,820.72	6,881.40	449.18	1,640.96	3,376.17	38.09	5,291.13	23,424.85	15,242.05	2,574.43			103,738.98	6.02	103,745.00
Total	4,270,428.62	305,080.45	7,292.53	14,593.02	44,142.51	49,504.01	160,681.91	622,022.51	365,752.94	30,131.85	8,186.17	5,051.34	5,882,867.86	11,132.14	5,894,000.00

TABLE 7.— Obligations and funds available under the Agricultural Marketing Act, Section 204(b), for the fiscal year ended June 30, 1959

Station	Obligations													Unobligated	Funds available 1/
	Personal services	Travel	Transportation of things	Communication service	Rents and utility services	Printing and reproduction	Other contractual services	Supplies and materials	Equipment	Lands and structures (contractual)	Contributions to retirement	Taxes and assessments	Total obligations		
Alaska	$14,028.16	$21.84											$14,050.00		$14,050.00
Arizona	3,402.59	232.76	$29.60	$41.45	$3.60		$215.40	$1,453.90	$533.22		$104.59	$39.06	6,056.17		6,056.17
Arkansas	2,425.00										75.00		2,500.00		2,500.00
California	18,500.00												18,500.00		18,500.00
Connecticut:															
Storrs	3,752.70	546.53				$162.00	125.00	257.01	211.50				5,054.74	$295.26	5,350.00
Delaware	2,000.00	301.58				340.00	121.89	552.83	50.96				3,367.26	1,049.18	4,416.44
Florida	14,114.92	4,435.10	54.27			57.91	69.99	1,133.54	133.61				19,999.34	.66	20,000.00
Georgia	13,992.47	419.73	1.50	3.02	230.00	1.72	155.46	453.30	463.25				15,720.45		15,720.45
Idaho	4,864.60	135.40											5,000.00		5,000.00
Illinois	3,800.00	263.19		24.20		2.40		589.84	12.50		145.00		4,837.13	1,312.87	6,150.00
Indiana	33,179.34	604.42	29.55	4.38			254.12	2,016.49					36,088.30	568.70	36,657.00
Iowa	22,391.70	1,629.19	4.51	53.00		18.44		4,263.46					28,360.30	63.93	28,424.23
Kansas	21,020.91	700.33			3.72		24.98	216.32	1,028.55			390.25	23,385.06	5,384.31	28,769.37
Kentucky	16,501.90	743.15		143.62			126.30	121.53	62.00			301.50	18,000.00		18,000.00
Louisiana	3,383.33							116.67					3,500.00		3,500.00
Maine	18,502.77	1,687.99	36.03	590.55	497.89	28.92	154.95	1,036.53	758.66				23,294.29		23,294.29
Maryland	6,334.22	231.67				47.35	569.07		75.73				7,258.04	725.65	7,983.69
Michigan	73,470.02	555.22	1.95	114.67	216.78	136.97	19,818.79	2,734.48	1,699.18				98,748.06	233.01	98,981.07
Mississippi	9,105.03	739.68		.09	55.20	222.59	17.50						10,140.09		10,140.09
Missouri	37,612.39	439.40	1.53	36.59	9.00	14.68	409.16	2,643.12	829.96	$4.17			42,000.00		42,000.00
Nebraska	12,111.46	618.90		.55				1,041.15	318.50			239.99	14,330.55	6.43	14,336.98
New Jersey	8,636.76	138.83				10.00	37.50	636.48	536.30				9,995.87	4.98	10,000.85
Ohio	10,019.82	842.67		117.50	131.64		383.87	4.50					11,500.00		11,500.00
Oregon	23,684.63	229.92	8.54	.31			855.38	316.11	905.11				26,000.00		26,000.00
Pennsylvania	5,000.00												5,000.00		5,000.00
South Dakota	5,670.00	57.75	108.00		195.15		15.50	453.60					6,500.00		6,500.00
Tennessee	150.40							746.55					896.95	1,603.05	2,500.00
Texas	6,902.52	38.00	7.96	1.49	120.26	1,521.88	929.45	1,445.22	2,002.91			30.31	13,000.00		13,000.00
Washington	14,783.79	604.54	.44			18.81	2,897.71	352.94	138.08				18,796.31	1,856.19	20,652.50
West Virginia	2,686.71	42.99					9.00	131.94					2,870.64		2,870.64
Wyoming	6,942.64	794.66	101.02	178.31			4,574.09	939.14	1,513.21				15,043.07	99.87	15,142.94
Total	418,970.78	17,055.44	384.90	1,309.73	1,463.24	2,583.67	31,765.11	23,656.65	11,273.23	4.17	324.59	1,001.11	509,792.62	13,204.09	522,996.71

1/ Included are allotments from the appropriation for fiscal year 1959 plus unobligated balances from the appropriation for fiscal year 1958.

TABLE 8.— Obligations from non-Federal funds for the fiscal year ended June 30, 1959

Station	Personal services	Travel	Transportation of things	Communication service	Rents and utility services	Printing and reproduction	Other contractual services	Supplies and materials	Equipment	Lands and structures (contractual)	Contributions to retirement	Taxes and assessments	Total	Unobligated balance
Alabama	$993,611.20	$38,425.25	$4,634.01	$13,452.63	$67,892.15	$7,678.18	$119,106.80	$469,112.24	$162,921.13	$60,427.69		$12,355.03	$1,949,616.31	$575,864.11
Alaska	132,520.00	8,486.00	2,195.00	656.00	1,397.00	4,243.00	23,616.00	20,593.00	6,459.00	59,170.00		5,686.00	265,021.00	42,401.00
Arizona	961,098.79	29,618.64	1,851.02	8,895.02	40,330.90		33,045.91	177,363.21	220,445.78		$741.05	774.70	1,474,165.02	62,135.38
Arkansas	1,003,854.20	49,162.93	30,132.12	22,826.82	60,871.51	25,363.13	55,307.16	393,380.45	62,948.58	79,252.09		17,754.19	1,800,853.18	371,565.82
California	9,020,174.79	410,359.78	10,733.50	117,042.10	125,939.76	81,523.41	330,528.59	959,356.79	667,260.99				11,722,919.71	955,373.56
Colorado	614,122.61	34,035.34	5,672.56	11,345.11	45,380.46	17,017.67	40,842.41	195,135.97	100,971.52	26,093.78	43,894.00		1,134,511.43	116,454.64
Connecticut:														
State	402,558.67	1,589.37	191.77	3,805.77	7,593.39	6,727.87	12,589.17	25,126.60	9,286.67	222,649.48			692,118.76	32,297.01
Storrs	554,714.24	8,852.91	302.20	300.75	5,422.14	4,514.44	7,603.46	71,373.61	31,343.79	60,380.00			744,807.54	144,852.33
Delaware	308,839.90	7,392.83	313.63	4,840.22	18,536.07	369.22	14,619.35	146,265.18	10,662.68				511,839.08	71,949.49
Florida	3,438,865.22	174,049.80	1,151.58	51,265.22	104,992.17	78,573.12	112,707.69	565,126.89	280,459.80	36,516.46			4,843,707.95	41,084.79
Georgia	1,532,183.17	36,338.87	1,405.94	18,890.72	98,761.40	19,870.65	60,447.19	684,121.95	178,161.06	294,257.19	28,654.98	40,482.68	2,993,575.80	654,880.22
Hawaii	589,649.89	23,038.95	2,904.29	7,054.73	16,156.61	10,740.28	39,845.47	113,843.95	33,065.93				836,300.10	50,442.52
Idaho	540,063.54	20,809.73	2,872.70	8,893.37	14,215.24	4,423.82	43,120.91	183,741.04	34,026.47	25,949.73	1,475.65	2,222.91	881,815.11	242,243.14
Illinois	2,179,525.09	130,000.00		40,000.00		100,000.00	65,000.00	348,634.61	44,662.92	7,242.47			2,915,065.09	
Indiana	2,071,849.85	61,836.28	14,603.00	31,284.29	84,105.45	49,216.85	154,698.26	723,543.38	144,940.29	125,171.25			3,461,248.90	110,789.67
Iowa	1,459,935.45	104,834.61	4,514.49	20,530.68	33,376.18	14,683.44	2,527.43	987,632.12	134,928.05		129,815.32		2,892,777.77	600,007.44
Kansas	1,386,436.68	34,199.88	8,859.08	9,260.59	57,183.02	21,460.46	96,817.50	557,796.81	105,499.98	11,020.78		22,201.26	2,310,736.04	227,607.10
Kentucky	785,869.52	14,378.13	1,069.18	6,689.22	43,760.84	4,850.84	87,745.67	277,895.85	105,010.53	82,160.59		14,248.08	1,423,678.45	
Louisiana	1,863,772.16	63,187.08	2,745.38	21,938.76	46,554.69	3,212.24	43,257.40	554,965.56	192,625.57	97,103.09			2,889,361.93	151,930.56
Maine	286,776.96	25,803.48	1,390.46	3,924.20	15,451.66	8,682.81	18,887.04	67,768.70	18,079.41				446,764.72	40,663.34
Maryland	761,519.63	16,252.14	615.97	5,236.29	6,943.96	6,967.56	69,629.13	170,375.96	57,374.47	33,891.85			1,128,806.96	39,053.25
Massachusetts	614,489.34	6,518.30	396.06	3,181.97	5,912.89	1,776.42	11,110.00	19,044.51					662,429.49	
Michigan	2,191,098.98	66,296.41	3,152.33	7,354.50	16,353.04	33,139.28	127,297.45	309,929.27	125,019.70	1,541.07			2,881,182.03	159,904.13
Minnesota	2,393,581.12	42,857.42	5,082.41	23,370.39	70,222.24	11,467.28	236,283.44	410,849.68	190,164.43	21,156.73			3,405,035.14	
Mississippi	858,519.03	30,549.52	5,207.87	12,209.47	76,218.79	14,429.20	103,518.72	442,071.22	185,774.13	207,912.20	61,045.58		1,997,455.73	181,485.38
Missouri	938,500.55	71,275.91	3,609.13	31,811.92	49,641.23	41,040.02	108,085.90	286,379.59	108,081.38	126,925.27	53,304.19	3,202.96	1,821,858.05	355,846.12
Montana	838,573.35	29,495.84	3,373.39	9,692.14	38,079.98	14,315.67	63,066.97	259,135.75	104,119.55	77,602.99	53,501.69	16,316.94	1,507,274.26	563,502.70
Nebraska	1,002,973.45	94,198.94	25,690.62	17,127.08	102,762.48	34,254.16	145,580.18	385,359.30	145,743.48	51,381.23			2,005,070.92	400,488.77
Nevada	137,011.25	3,002.97	927.51	1,221.03	2,639.60		4,050.40	54,791.83	13,646.12	5,000.00	9,800.00		232,090.71	
New Hampshire	137,540.61	4,851.74	198.92	1,521.72	1,379.39	523.96	674.09	36,597.90	4,998.03				188,286.36	75,544.18
New Jersey	1,382,831.19	33,676.22	1,609.75	28,316.42	70,926.23	16,070.81	163,173.70	183,971.22	78,762.36				1,959,337.90	16,573.94
New Mexico	350,832.10	9,798.16	608.97	2,474.57	10,139.36	8,421.64	28,315.06	57,735.46	25,689.46	7,805.28	19,536.72	10,073.49	531,430.27	38,213.94
New York:														
Cornell	3,044,357.86	61,603.17	6,329.50	57,069.95	350,119.27	67,690.74	126,431.07	476,177.35	105,966.84	16,579.52			4,312,325.27	
State	1,195,530.69	11,411.70	2,422.41	6,644.90	18,743.93	15,278.02	42,112.02	111,009.66	76,144.71	8,798.31			1,488,096.35	
North Carolina	1,692,841.69	47,586.00	2,676.01	26,394.89	22,069.19	19,224.54	79,921.28	207,717.90	102,422.46	153,885.63			2,354,739.59	
North Dakota	532,150.58	25,884.98	6,595.56	5,338.52	42,414.74	13,053.49	81,999.29	166,958.89	95,666.68	271,232.74	10,121.53	38,277.19	1,289,694.19	286,683.53
Ohio	1,392,189.62	32,068.61	6,294.97	18,235.47	58,514.52	6,880.18	30,730.21	414,165.14	115,894.83	606,300.28	5,188.18		2,686,462.01	437,832.75
Oklahoma	1,033,080.88	53,740.32	2,978.36	15,050.09	52,131.35	12,235.17	92,543.14	372,319.47	88,422.26	66,149.90	23,509.57		1,812,160.51	398,456.09
Oregon	1,817,611.91	104,128.08	8,244.56	15,382.30	21,846.37	17,456.87	58,482.93	334,291.86	127,741.77	25,776.02	103,664.01	9,784.01	2,644,410.69	
Pennsylvania	1,410,712.14	52,152.55	3,192.69	10,910.22	9,234.13	13,155.37	80,024.28	295,902.67	112,425.61	7,593.81			1,995,303.47	170,580.75
Puerto Rico	1,129,216.05	12,468.78	2,918.27	11,129.56	48,274.35	15,904.38	32,607.06	130,851.94	56,435.95	39,844.90	38,156.33	27,493.33	1,545,300.90	396,183.45
Rhode Island	220,857.45	1,466.79	134.21	976.22	465.20	1,681.43	1,011.20	35,032.53	4,760.71	453.42			266,839.16	79,099.01
South Carolina	630,660.04	26,173.28	2,464.51	7,766.28	31,028.84	6,995.68	54,600.86	206,810.26	97,505.42	9,655.09			1,073,660.26	83,173.91
South Dakota	626,161.63	24,502.83	2,205.48	7,939.06	10,751.79	9,534.75	4,505.80	306,040.68	138,094.38	2,023.12		437.80	1,132,197.32	121,960.29
Tennessee	481,099.55	28,015.40	6,895.74	16,240.09	18,308.21	17,819.12	88,226.17	219,706.62	72,628.07	86,014.43	45,383.52		1,080,336.92	174,316.90
Texas	2,511,375.38	76,435.16	7,860.20	44,481.76	113,665.43	21,818.96	682,380.13	598,733.14	409,098.99	56,556.10	917.54	51,649.55	4,574,972.34	1,044,920.88
Utah	515,883.09	28,303.76	1,251.33	11,764.99	22,998.76	18,965.87	47,164.17	147,193.02	65,586.52	5,780.30	40,482.78		905,374.59	123,422.86
Vermont	130,274.77	7,085.42	27.29	3,006.04	7,844.34	6,361.42	26,120.06	13,134.25	7,715.59	97.75	13,321.42	4,971.84	219,960.69	24,617.97
Virginia	1,112,427.60	75,855.69	4,102.01	20,545.92	96,497.92	13,217.13	89,546.97	284,263.54	154,563.29	53,758.09			1,904,778.16	
Washington	2,054,619.33	87,918.10	10,557.88	23,595.45	51,279.82	23,928.18	627,129.93	73,413.36	3,314.55	133,719.77	95,990.34	44,875.15	3,230,341.86	16,004.49
West Virginia	311,431.00	7,086.00	1,682.00	5,815.00	27,163.00	1,020.00	50,350.00	131,827.00	31,983.00			1,696.00	570,053.00	188,135.00
Wisconsin	2,657,893.00	56,398.00	3,014.00	5,865.00	15,011.00	18,289.00	101,488.00	592,374.00	149,143.00	319,500.00		18,000.00	3,936,975.00	
Wyoming	373,565.46	33,832.92	2,634.65	4,339.28	20,866.32	5,994.90	30,957.69	89,640.94	65,137.13	34,067.07			661,036.36	100,775.53
Total	66,607,832.25	2,539,290.97	232,496.47	864,904.69	2,378,368.81	972,062.63	4,851,430.71	15,346,583.82	5,663,785.02	3,618,397.47	778,504.40	342,503.11	104,196,160.35	9,939,317.94

TABLE 9.— Summary by States of obligations of the experiment stations for the fiscal year ended June 30, 1959

Station	Federal-grant funds Hatch Act, as amended			Contractual Federal funds, Agricultural Marketing Act Sec. 204(b)	Total Federal funds	Non-Federal funds	Grand total
	Quarterly Payments	Regional Research Fund	Total				
Alabama	$701,993.00	$117,791.33	$819,784.33		$819,784.33	$1,949,616.31	$2,769,400.64
Alaska	198,093.00	6,000.00	204,093.00	$14,050.00	218,143.00	265,021.00	483,164.00
Arizona	255,682.00	110,575.00	366,257.00	6,056.17	372,313.17	1,474,165.02	1,846,478.19
Arkansas	590,803.00	99,214.00	690,017.00	2,500.00	692,517.00	1,800,853.18	2,493,370.18
California	664,897.00	199,260.00	864,157.00	18,500.00	882,657.00	11,722,919.71	12,605,576.71
Colorado	312,306.00	173,595.00	485,901.00		485,901.00	1,134,511.43	1,620,412.43
Connecticut:							
Storrs	135,582.14	10,765.00	146,347.14		146,347.14	692,118.76	838,465.90
Storrs	135,837.00	72,140.00	207,977.00	5,054.74	213,031.74	744,807.54	957,839.28
Delaware	210,306.00	43,840.00	254,146.00	3,367.26	257,513.26	511,839.08	769,352.34
Florida	395,364.00	65,730.32	461,094.32	19,999.34	481,093.66	4,843,707.95	5,324,801.61
Georgia	730,367.00	162,255.00	892,622.00	15,720.45	908,342.45	2,993,575.80	3,901,918.25
Hawaii	237,835.00	39,400.00	277,235.00		277,235.00	836,300.10	1,113,535.10
Idaho	278,286.00	99,754.93	378,040.93	5,000.00	383,040.93	881,815.11	1,264,856.04
Illinois	690,170.00	163,820.00	853,990.00	4,837.13	858,827.13	2,915,065.09	3,773,892.22
Indiana	599,772.74	166,235.39	766,008.13	36,088.30	802,096.43	3,461,248.90	4,263,345.33
Iowa	605,310.00	212,841.00	818,151.00	28,360.30	846,511.30	2,892,777.77	3,739,289.07
Kansas	447,411.32	91,834.83	539,246.15	23,385.06	562,631.21	2,310,736.04	2,873,367.25
Kentucky	725,228.00	125,665.50	850,893.50	18,000.00	868,893.50	1,423,678.45	2,292,571.95
Louisiana	519,667.00	86,202.00	605,869.00	3,500.00	609,369.00	2,889,361.93	3,498,730.93
Maine	286,518.00	89,330.00	375,848.00	23,294.29	399,142.29	446,764.72	845,907.01
Maryland	345,414.00	97,960.00	443,374.00	7,258.04	450,632.04	1,128,806.96	1,579,439.00
Massachusetts	322,760.00	105,710.00	428,470.00		428,470.00	662,429.49	1,090,899.49
Michigan	657,836.00	110,051.86	767,887.86	98,748.06	866,635.92	2,881,182.03	3,747,817.95
Minnesota	586,625.00	151,075.74	737,700.74		737,700.74	3,405,035.14	4,142,735.88
Mississippi	710,856.00	134,363.00	845,219.00	10,140.09	855,359.09	1,997,455.73	2,852,814.82
Missouri	646,350.00	94,630.00	740,980.00	42,000.00	782,980.00	1,821,858.05	2,604,838.05
Montana	271,263.00	115,984.74	387,247.74		387,247.74	1,507,274.26	1,894,522.00
Nebraska	399,571.00	130,200.00	529,771.00	14,330.55	544,101.55	2,005,070.92	2,549,172.47
Nevada	196,947.00	66,500.00	263,447.00		263,447.00	232,090.71	495,537.71
New Hampshire	232,040.00	56,275.00	288,315.00		288,315.00	188,286.36	476,601.36
New Jersey	316,631.00	111,201.89	427,832.89	9,995.87	437,828.76	1,959,337.90	2,397,166.66
New Mexico	270,380.00	75,775.00	346,155.00		346,155.00	531,430.27	877,585.27
New York:							
Cornell	606,970.52	165,597.51	772,568.03		772,568.03	4,312,325.27	5,084,893.30
State	67,438.06	52,160.41	119,598.47		119,598.47	1,488,096.35	1,607,694.82
North Carolina	959,622.00	167,658.00	1,127,280.00		1,127,280.00	2,354,739.59	3,482,019.59
North Dakota	323,018.00	64,000.00	387,018.00		387,018.00	1,289,694.19	1,676,712.19
Ohio	779,600.00	138,568.00	918,168.00	11,500.00	929,668.00	2,686,462.01	3,616,130.01
Oklahoma	505,668.00	84,714.00	590,382.00		590,382.00	1,812,160.51	2,402,542.51
Oregon	352,872.00	141,645.00	494,517.00	26,000.00	520,517.00	2,644,410.69	3,164,927.69
Pennsylvania	857,357.00	170,315.00	1,027,672.00	5,000.00	1,032,672.00	1,995,303.47	3,027,975.47
Puerto Rico	660,884.20	115,237.01	776,121.21		776,121.21	1,545,300.90	2,321,422.11
Rhode Island	205,537.00	81,860.06	287,397.06		287,397.06	266,839.16	554,236.22
South Carolina	574,079.00	94,957.00	669,036.00		669,036.00	1,073,660.26	1,742,696.26
South Dakota	320,606.00	85,350.00	405,956.00	6,500.00	412,456.00	1,132,197.32	1,544,653.32
Tennessee	732,709.00	130,149.00	862,858.00	896.95	863,754.95	1,080,336.92	1,944,091.87
Texas	975,292.00	169,148.00	1,144,440.00	13,000.00	1,157,440.00	4,574,972.34	5,732,412.34
Utah	243,946.00	126,765.00	370,711.00		370,711.00	905,374.59	1,276,085.59
Vermont	242,360.00	37,773.39	280,133.39		280,133.39	219,960.69	500,094.08
Virginia	648,598.00	106,717.50	755,315.50		755,315.50	1,904,778.16	2,660,093.66
Washington	390,673.34	192,679.29	583,352.63	18,796.31	602,148.94	3,230,341.86	3,832,490.80
West Virginia	495,888.00	102,577.66	598,465.66	2,870.64	601,336.30	570,053.00	1,171,389.30
Wisconsin	598,286.00	165,280.52	763,566.52		763,566.52	3,936,975.00	4,700,541.52
Wyoming	220,532.58	103,738.98	324,271.56	15,043.07	339,314.63	661,036.36	1,000,350.99
Total	24,440,037.90	5,882,867.86	30,322,905.76	509,792.62	30,832,698.38	104,196,160.35	135,028,858.73

TABLE 10.— Summary by classification of obligations of the experiment stations for the fiscal year ended June 30, 1959

Account	Federal-grant funds Hatch Act, as amended			Contractual Federal funds, Agricultural Marketing Act Sec. 204(b)	Total Federal funds	Non-Federal funds	Grand total
	Quarterly Payments	Regional Research Fund	Total				
01 Personal services	$19,954,278.12	$4,270,428.62	$24,224,706.74	$418,970.78	$24,643,677.52	$66,607,832.25	$91,251,509.77
02 Travel	458,595.45	305,080.45	763,675.90	17,055.44	780,731.34	2,539,290.97	3,320,022.31
03 Transportation of things	18,783.50	7,292.53	26,076.03	384.90	26,460.93	232,496.47	258,957.40
04 Communication services	40,525.45	14,593.02	55,118.47	1,309.73	56,428.20	864,904.69	921,332.89
05 Rents and utility services	117,129.77	44,142.51	161,272.28	1,463.24	162,735.52	2,378,368.81	2,541,104.33
06 Printing and reproduction	160,755.31	49,504.01	210,259.32	2,583.67	212,842.99	972,062.63	1,184,905.62
07 Other contractual services	451,151.19	160,681.91	611,833.10	31,765.11	643,598.21	4,851,430.71	5,495,028.92
08 Supplies and materials	1,764,461.66	622,022.51	2,386,484.17	23,656.65	2,410,140.82	15,346,583.82	17,756,724.64
09 Equipment	1,143,038.39	365,752.94	1,508,791.33	11,273.23	1,520,064.56	5,663,785.02	7,183,849.58
10 Lands and structures (contractual)	211,306.90	30,131.85	241,438.75	4.17	241,442.92	3,618,397.47	3,859,840.39
11 Contributions to retirement	57,635.01	8,186.17	65,821.18	324.59	66,145.77	778,504.40	844,650.17
15 Taxes and assessments	62,377.15	5,051.34	67,428.49	1,001.11	68,429.60	342,503.11	410,932.71
Total	24,440,037.90	5,882,867.86	30,322,905.76	509,792.62	30,832,698.38	104,196,160.35	135,028,858.73

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